

**WASTE MANAGEMENT SYSTEM EFFECTIVENESS IN JARING
HALUS VILLAGE, SECANGGANG DISTRICT,
LANGKAT REGENCY**

Tisya Ramadhani^{1*}, Dara Aisyah²

^{1,2}Public Administration Study Program, Faculty of Social and Political Sciences,
Universitas Sumatera Utara
E-mail: ¹⁾ Syaramadhani06@gmail.com

Abstract

This study seeks to determine and characterize the efficacy of the waste management system in Jaring Halus Village, Secanggang District, Langkat Province. The method of research employed is qualitative research. Interviews, observation, and documentation were employed as data collection technique. The data were then examined using Duncan's theory, which includes the elements of goal attainment, integration, and adaptation. The North Sumatra Provincial Environment Service, the Langkat Regency Environmental Service, the village head and Jaring Halus Village Apparatus, and the Jaring Halus Village Community were among the 11 informants in this study who had knowledge of the waste management system. Based on the findings, it is clear that the waste management system in Jaring Halus Village, Secanggang District, Langkat Province has not been effective. Due to various difficulties, including the absence of solid waste services and monitoring, unsustainable Jumat Bersih and collaboration actions, and the community's continued practice of dumping trash into the sea. One positive outcome of integration has been increased sociability and cooperation among the multiple stakeholders. The waste management system adaptation dimension in the province of North Sumatra has not been as effective as in Langkat Regency, particularly Jaring Halus Village. Due to a lack of resources to support the deployment of the waste management system, the infrastructure is inadequate. Moreover, the capacity of human resources to teach the public remains insufficient.

Keywords: Effectiveness, Environmental Service, Governance System, Waste Management System

1. INTRODUCTION

Garbage is an object or material that is no longer used by humans so that it is thrown away. The public stigma regarding waste is that all garbage is disgusting, dirty, etc., so it must be burned or disposed of properly (Mulasari, 2013). The public's perspective on waste should no longer see waste as a useless waste product. Waste should be seen as something that has use value and benefits (Takbiran, 2020).

Basically, waste production in Indonesia has increased every year (IGES, 2019). The amount of waste produced in an area is usually proportional to the population, type of activity, and the level of population consumption of the goods or materials produced. The larger the population, the greater the level of consumption of goods so that it affects the volume of waste produced (Sucipto, 2012). There is an increase in population with changes in consumption patterns in the community due to the increase in volume, type and characteristics of waste, resulting in various dilemmas.

Waste management is not only the responsibility of the community but also the

government, so that it does not have a negative impact on the surrounding environment (Hardiatmi, 2011). The environment is the biggest factor in influencing health status, so protecting the environment is the responsibility of each individual (Hendrik & Slamet (2016) in Elamin et al. (2018). Garbage can become an environmental problem if it is not handled properly, especially if it has accumulated on a city scale. More than 25 types of diseases are caused by poor waste management, one of which is diarrhea. Poor waste management can cause pollution to water, air and soil (Sucipto, 2012). In addition, the absence of a waste processing site is the underlying problem (Sari, 2017).

Basically, waste management regulations regulated nationally by the central government must also be implemented in the regions. Local governments are also authorized to determine waste management policies that are determined based on their respective administrative areas. Waste management policies and strategies in the regions must be regulated in accordance with provincial policies, with reference to national policies. The central government has a significant role in directing district or city governments in waste management.

Hence, this study highlight on Jaring Halus Village because the village has very complicated problems in solving the waste problem. Jaring Halus Village is a coastal village located in Secanggang District, Langkat Regency. It takes around four hours to reach Jaring Halus Village from the downtown of Medan City. Jaring Halus Village as an area far from the city center and transportation to reach it is quite difficult. This village can be said to be a less clean village because of the large pile of garbage under the houses on stilts (Dora, 2006).

Heaps of garbage not only come from the community but also from garbage carried by sea water during low tide. As a matter of fact, the problem of waste must be tackled together between the government and the community on an ongoing basis. The waste problem in Jaring Halus Village has not been resolved until now due to the lack of public awareness in disposing of waste. This is due to the lack of socialization from stakeholders, causing the Jaring Haluss to become slum settlements, the occurrence of puddles, especially when the source of clean water is inadequate.

The problem of Jaring Halus Village has not been completed due to the lack of many community development programs that have entered the village. The problem occurred because there was no monitoring so that there was an uncontrolled waste disposal, the garbage was left full and not taken to the Final Disposal Site (TPA) by the cleaning staff (Interview with the Village Head, Haji Husman and the Community on 6-7 November 2020).

Previous studies have been examined about the waste management, according to Susanto et al. (2020) garbage is a major issue for fishermen, because people still think with the old pattern, namely that they think of the beach or river as a dumping ground for garbage. People also think that waste can be solved by burning it completely, so that there is no more waste that must be managed and of course it will not pollute the environment. The results of the study stated that to overcome these problems, namely by managing waste to become items of aesthetic value, namely by making handicrafts in the form of flowers using plastic bottle waste (Susanto et al., 2020).

Moreover, Jannah (2020) found that as the population in an area increases, the volume of waste will increase. People's consumption patterns also contribute to increasing the volume of waste that is increasingly diverse. The study discover that the community had

been educated in the system of waste collection, waste transportation, and disposal to the TPSA. The solution to the problem in the study is that the community is empowered by processing household-scale waste through the composting method.

Further, according to Rosita (2017) waste management as an effort to reduce pollution of inorganic waste and weeds in the form of water hyacinth that grows around the Citarum river. The community is trained to live clean and healthy, so that any waste produced by the community every day is not wasted or even the waste has economic value, which is processed into handicraft materials with a high selling value.

Likewise, Lestari (2018) also shows the importance of community empowerment in managing organic waste into compost. Empowerment in the form of training and providing facilities in the form of composter baskets to the community for household scale compost production. These various programs are basically to improve community empowerment in waste management. Unfortunately, there are still obstacles faced in the form of a weak level of awareness and willingness of the community to change in using the composter basket. The factors that hinder the empowerment efforts are the lack of understanding to maintain the facilities provided and the lack of motivation to carry out the programs that have been provided in a sustainable manner. Based on the above background, this study aims to reveal and describing the effectiveness of the waste management system in Jaring Halus Village, Secanggang District, Langkat Regency.

2. LITERATURE REVIEW

2.1. Good governance

The concept of good governance has emerged as a paradigm that cannot be separated from the concept of governance, which historically was first adopted by practitioners in international development institutions, which contains the connotation of effective performance related to public management and corruption (Khoidin, 2015). According to the World Bank Institute, the word governance is defined as "the way state power is used in managing economic and social resources for the development of society", namely the way in which state power is used to manage economic and social resources for community development. The emphasis on governance here is as a tradition and institution where the authority in a country is exercised in the public interest (Bakry, 2010).

2.2. Good Environmental Governance

Good environmental governance is part of government policy in environmental management for the sake of environmental sustainability and sustainability. The administration of government based on the principles of good environmental governance means that the management of government affairs in the field of natural resources and the environment is carried out in such a way based on the vision of protecting and preserving environmental functions in supporting the implementation of sustainable development.

2.3. Program Performance

According to Mangkunegara (2009) in his book "Management of Human Resources of the Company", highlight the notion of performance as the result of work in quality and quantity achieved by an employee in carrying out his duties in accordance with the

responsibilities given. Performance is a real behavior that is displayed by everyone as work performance produced by employees according to their role in the company (Raissa & Fatimah, 2022).

Further, Mahsun (2006) said that performance is a description of the level of achievement of the implementation of an activity/program/policy in realizing the goals, objectives, mission and vision of the organization contained in the strategic planning of an organization.

2.4. Effectiveness

According to Pasolong (2012) that effectiveness comes from the word “effect” and is used in this term as a cause-and-effect relationship. Effectiveness means that the previously planned goals can be achieved or in other words the goals are achieved because of the activity process. According to Sutrisno (2010) that the effectiveness of an organization depends on how far the organization is successful in achieving its goals. In line with opinion of Stoner in Siswandoko & Darsono (2011) effectiveness is a broad concept that includes various factors inside and outside the organization, which are related to the level of success of the organization in an effort to achieve organizational goals or objectives.

Effectiveness is a measurement of the completion of a particular job in an organization (Kumorotomo, 2005). Measures of effectiveness can be known as follows:

1. Production is an organization's ability to produce the quantity and quality of output in accordance with environmental demands.
2. Efficiency is a comparison (ratio) between output and input.
3. Satisfaction is a measure to show the level at which the organization can meet the needs of society.
4. Adaptability is the degree to which an organization can and is truly responsive to internal and external changes.
5. Development is a measure of the organization's ability to increase its capacity in facing the demands of society.

2.5. Waste Management System

The system can be defined as a collection of things or activities or elements or subsystems that work together or are connected in certain ways so as to form a unit to carry out functions in order to achieve a goal. A system is a network of procedures that are interconnected, gathered together to perform an activity or to complete a certain goal. There are several stages in managing waste according to Cunningham & Cunningham (2004), which is as follows:

- 1) Early stage management:
 - a) Reduce
 - b) Reuse
 - c) Recycle
- 2) Final stage management:
 - a) Sanitary landfill
 - b) Incineration
 - c) Open dumping

3. RESEARCH METHOD

This research is a descriptive method with a qualitative approach. This research was conducted in Jaring Halus Village, Secanggang District, Langkat Regency. The problem that is the focus of research by researchers is the waste management system because there is a problem, namely the pile of garbage not only comes from the community but also comes from garbage carried by sea water during low tide. The issue with the excessive amount of waste in Jaring Halus Village has not been remedied up until this point. It is clear from a variety of news coverage, which explains why there is a lack of public knowledge in regards to the disposal of waste. This study's informants included the Head of the Program Section of the North Sumatra Provincial Environmental Service, North Sumatra Provincial Environmental Service staff, the Head of the Langkat Regency Environmental Service, the Head of Jaring Halus village, Jaring Halus village apparatus, and Jaring Halus village residents.

The data collection technique used in this study was to collect data directly at the research site. In this study, primary data collection techniques were conducted through interviews and observations. Data collection techniques using notes or documents, photographs, pictures and other sources at the research location related to the object of research based on documentation guidelines, as well as collecting data obtained from books, scientific works, journals, literature, internet, regulations and opinions of experts who are competent, and have relevance to the problem under study. The data analysis technique used in this research is qualitative data analysis, which is to describe and interpret the data obtained from the field and the informants.

4. RESULT AND DISCUSSION

4.1. Research Result

This research adopted the Duncan's theory as in Steers et al. (1985) regarding the dimensions that determine organizational effectiveness. Hence, the effectiveness of the waste management system in Jaring Halus Village, Secanggang District, Langkat Regency was examined within three dimensions: goal achievement, integration and adaptation.

4.1.1. Achievement of objectives

The effectiveness of an organization can be known through the achievement of its goals. Achievement of goals can be achieved if the organization is engaged in carrying out organizational activities in accordance with the goals that have been set and to be achieved including the legal basis, time period and concrete targets. Efforts to achieve goals must be viewed as a process. As a result, phasing is required to ensure the attainment of the final aim, both in terms of phasing out the achievement of its sections and phasing in terms of its periodization.

The waste management system in achieving its goals is based on rules or the existence of a legal basis that regulates so that its implementation can be well organized which is realized through monitoring activities by the government related to the implementation of the waste management system. The waste management system in Langkat Regency is adjusted to the vision and mission of the Langkat Regency government, the results of interviews with the two informants stated that: "The vision and mission are always directed

at religious, dynamic and prosperous. Following Presidential Decree No. 97 of 2017 also clearly leads to Zero Waste Government.”(interview with the Head of First Aid Waste Management, Mr. Tengku Reza Aditya and Staff of the Waste Division of the Langkat Regency Environmental Service, Mr. Ricky Yudhasena, 30 November 2021)

The problem of the absence of solid waste services in Jaring Halus Village, explained by the Head of Environmental and Forestry Capacity Building that: “Jaring Halus village is an island so it requires easy access or transportation to get there. Indeed, if we provide services, there must be more of a kind of deliberations or cross-agency meetings to support each other. Because the Environment Agency (this pertains to DLH) does not have a tool, and it is not yet operating. Handling waste requires a lot of money and infrastructure.” (interview with Head of Environmental and Forestry Capacity Building, Mr. Tengku Mahrizal Azmi, 30 November 2021)



Source: Observation Results, 2022

Figure 1 Jaring Halus Village Island

The figure above shows the geographical condition of Jaring Halus Village which is in the middle of the waters. This shows that the geographical condition requires access in the form of boats, ships or other water transportation to access Jaring Halus Village. But it seems there is no alternative driving water transportation, and the available water transportation is quite limited, making it challenging to carry out waste services in Jaring Halus Village.

Regarding the results of observations and the results of interviews stated by the Head of Capacity Building for Environment and Forestry, the same statement was made by the Head of Jaring Halus Village that: “The garbage in the Jaring Halus village is still not handled because the government does not have a policy for garbage service here.” (interview with Jaring Halus Village apparatus, Mr. Hasan Basri, 18 December 2021)

“At this time, only the village government is struggling to handle the problem until it reaches the Jaring Halus village.” (interview with the Head of Jaring Halus Village, Mr. Haji Husman, 18 December 2021)



Source: Observation Results, 2022

Figure 2 Untreated waste

The figure above as a result of the researcher's observations can be seen that the volume of waste that covers the entire land around the community environment shows that the waste has not been handled properly. Furthermore, regarding unsustainable waste management, namely: "There are also people from the community who care about waste management so that it is useful, so the idea arose to create a block. We've been there to go down directly, the community's intention is already there to reduce plastic waste. Generally, plastic waste is a big problem that happens there. So they have worked with the waste bank. They used to be enthusiastic now it's not sustainable. They have made commodities from the results of waste management, but they are confused about marketing them. We should be a bridge for that, the only weakness is there, namely quality. Because quality is important." (interview with Head of Environmental and Forestry Capacity Building, Mr. Tengku Mahrizal Azmi, 30 November 2021)

The waste problem in Jaring Halus Village has not been well resolved until now, the results of interviews with informants stated that: "Garbage in Jaring Haluss is an unresolved problem, especially plastic waste and household waste plus shipping waste that comes during high tide or tidal waters. This continues to be our long thought as the village government, how to deal with waste at least reduce it. In addition, Jaring Haluss above sea level are very vulnerable to garbage carried by high tides or tidal waters." (interview with the Head of Jaring Halus Village, Mr. Haji Husman, 18 December 2021)

Further statements are expressed as follows: "The waste problem in this village has not been resolved since ancient times. There have been many volunteers and official people who often come here, but there is no solution and there is no solution because the Jaring Halus village is surrounded by the ocean, so the waste does not come from household waste. You could say this garbage comes from natural phenomena such as the tides of the sea, when the high tide the garbage enters the residents' settlements but when it recedes the garbage stays." (interview with the people of Jaring Halus Village, Mr. Edi, Mrs. Ani, and Mrs. Ita, 18 December 2021)

Several efforts were made to handle waste in Jaring Halus Village, the results of interviews with informants stated that: "Efforts by the Jaring Halus village government in terms of garbage continue to be carried out, there are still garbage officers who clean or sweep in minimal land areas where garbage is scattered. Then, in the annual budget of 2022, the village government plans a final waste disposal site where later the village government

appoints several garbage officers to transport the scattered garbage and throw it away in one place, and then one day the place will be piled up and made into land to be built in one place, which is on top of the building.” (interview with the Head of Jaring Halus Village, Mr. Haji Husman, 18 December 2021)



Source: Documentation Results, 2022

Figure 3 *Jumat Bersih* Program

The results of the documentation above show that the *Jumat Bersih* program activities (clean friday program) are carried out every Friday, in which the community, village government and other parties are involved in handling waste.



Source: Documentation Results, 2022

Figure 4 *Minggu Gotong Royong* Program (Mutual Cooperation Program)

According to the results of the documentation above, it shows the activities of the Mutual Cooperation Program in which the whole community is involved in handling waste. The results of the researcher's observations show that efforts in handling waste in Jaring Halus Village are by making Temporary Disposal Sites (hereinafter referred to as TPS).

However, the condition of the TPS wall is cracked so that it is not able to accommodate the large volume of waste so that it is scattered around the community's home environment.

Based on the results of interviews, observations and documentation that have been explained, it can be seen that the achievement of the objectives of waste management in Jaring Halus Village has not been effective because it has experienced several obstacles such as the absence of solid waste services and monitoring from the Langkat Regency Environmental Service due to the lack of budget and inadequate infrastructure to provide waste services outside the island, namely Jaring Halus Village whose geographical condition is surrounded by sea. In addition, waste management and participation in participating in *Jumat Bersih* and mutual cooperation program activities that are not sustainable are caused by the lack of public awareness. People are used to trash surrounding the house since high tide brings it back. People also continue to throw garbage into the ocean despite the fact that the TPS is already at capacity and the garbage is not being transported to the TPA, which results in the garbage being spread across the environment. Then the wall collapsed, and the government took no action.

4.1.2. Integration

The effectiveness of the organization is then known through the dimension of integration. Integration is to determine the ability of an organization to conduct socialization, consensus development and communication with various other organizations. Integration involves procedural and socialization processes.

The process of procedures and socialization becomes very important so that the goals to be achieved can be known by members of the organization and who are the objects of the organization's activities. The waste management system has been effective in terms of procedural processes and socialization to the community so that the implementation of waste management activities can achieve 70% handling and 30% reduction through waste services and monitoring.



Source: Documentation Results, 2022

Figure 5 North Sumatra Provincial Environmental Agency Meeting with Communities

The figure of the documentation above shows that the government is serious in dealing with waste problems in North Sumatra Province which is realized through meeting activities

so that waste handling and reduction activities can be carried out properly.

The Langkat Regency Government also continues to disseminate policies on waste management systems in several regions. Socialization was also carried out to Jaring Halus Village but it was only temporary depending on certain moments. The Head of LH and Forestry Capacity Building at the Langkat Regency Environmental Service said that: “When there are certain events such as *Jamu laut* (Ritual ceremonies), sometimes there are visits from the government, Mr. President or Mr. Minister, maybe every two years. Hence, there was a letter from there asking for help with cleaning there. So we sent a team there.” (interview with Head of LH and Forestry Capacity Building at Langkat Regency Environmental Service, Mr. Tengku Mahrizal Azmi, 30 November 2021)



Source: Documentation Results, 2022

Figure 6 Socialization of the Langkat Regency Environmental Service at the Bukit Lawang Waste Bank

The results of the documentation above show the seriousness of the Langkat Regency government in handling waste in the Langkat Regency area by conducting socialization and involving the Bukit Lawang Garbage Bank to play a role in the process of handling waste in the form of processing waste into goods of economic value.

Garbage handling in Jaring Halus Village also involves stakeholders, namely the waste bank, but the Head of Jaring Halus Village said that:

"The waste bank is no longer active" (interview with the Head of Jaring Halus Village, Mr. Haji Husman, 18 December 2021)



Source: Observation Results, 2022

Figure 7 The condition of Jaring Halus Village Garbage Bank which is no longer active

The results of the researchers' observations above show that the Jaring Halus Village government and the community are really serious about handling waste by establishing a Waste Bank. However, the current condition of the waste bank is not active.

The Jaring Halus Village Government also experienced problems, the Head of Jaring Halus Village said that: “.....we have educated and provided some pictures such as plastic waste that can be of economic value, but there is very little awareness of waste so that it becomes a long problem in handling it.” (interview with the Head of Jaring Halus Village, Mr. Haji Husman, 18 December 2021)



Source: Documentation Results, 2022

Figure 8 Village Head socializing to the community

The results of the documentation above show that the Jaring Halus Village government, namely the Village Head as a speaker, conveys waste problems and tips on handling and reducing waste in Jaring Halus Village. The public also seriously listened to the explanations given carefully and attentively.

Based on the results of interviews, observations and documentation described, it can be seen that the dimensions of integration which include socialization and procedural processes have not been effective. The North Sumatra Provincial Government through the North Sumatra Provincial Environmental Service has carried out routine socialization related to the

waste management system in all regions in North Sumatra through training, workshops, meetings, to the community, to schools. Participate in the activities of environmental observers, community support for environmental observers is carried out by providing assistance with waste management tools. Involving local governments through related agencies, NGOs, communities, leaders, educators, teachers, and students with coordination in the form of meetings, through letters, appeals, and circulars. However, The Langkat Regency Environmental Service in the process of service procedures to Jaring Halus Village is only temporary depending on certain moments such as the invitation of Jamu Laut and the visit of the President and Minister. The Jaring Halus Village Government has also carried out socialization to the community regarding the *Jumat Bersih* and Mutual Cooperation Sunday program. The process of implementing the waste management system policy by the village government by educating and inviting the community to manage waste so that it has economic value by collecting it and taking it to a waste bank, then processing it by a waste bank and waste that cannot be processed will be taken to a landfill.

4.1.3. Adaptation

Finally, organizational effectiveness can be seen from the adaptation dimension. Adaptation is the organization's ability to adapt to its environment which can be identified through the capabilities and infrastructure. The ability of the organization to carry out an organizational activity that is supported by adequate infrastructure can be said that the organization has been effective.

The governance system implemented in the province of North Sumatra has not shown the effectiveness of an organization in terms of adequate capabilities and infrastructure. The staff of the Waste Sub-Division of the North Sumatra Province Environmental Service said that: "Inadequate infrastructure, lack of human resources who can educate the public, lack of public awareness, no firm sanctions for violations of waste management, ineffective coordination among stakeholders." (interview with the Waste Sub-Division Staff of the North Sumatra Province Environmental Service, Mrs. Jamalia Pattimura, 24 September 2021)

Based on the results of the interview, it can be seen that the infrastructure needed in the implementation of the waste management system in North Sumatra is not adequate. The following two informants conveyed the same thing: "Now we are required to have a sanitary landfill area. The budget needed for a sanitary landfill is 30-40 billion and we don't have that kind of funds. We are anticipating the new land for the new TPA which If the sampling is we take the TPA and it is not sufficient. we have mandated to become a sanitary landfill which we now have in Kuala Binai Stabat. It's already overcapacity so it's already very effective and inadequate. There are 3 waste bags that we have prepared, but 2 of them are open dumping, now it is no longer allowed, and 1 control landfill which is already overcapacity." (interview with the Head of First Aid Waste Management, Mr. Tengku Reza Aditya and Staff of the Waste Division of the Langkat Regency Environmental Service, Mr. Ricky Yudhasena, 30 November 2021)

According to the North Sumatra Provincial Environment Service and Langkat District Environmental Service official have explained that the infrastructure for implementing the waste management system was inadequate. The Head of LH and Forestry Capacity Building at the Langkat Regency Environmental Service said that: "Jaring Halus village is an island

so it requires easy access or transportation to get there. Because there is no tool for DLH and it is not yet effective. Handling waste requires a lot of money and infrastructure.” (interview with Head of LH and Forestry Capacity Building at Langkat Regency Environmental Service, Mr. Tengku Mahrizal Azmi, 30 November 2021)



Source: Observation Results, 2022

Figure 9 limited access to Jaring Halus Village

The results of the observations above show the lack of access to Jaring Halus Village which only uses “*getek* (boat)”, a term to describe simple water transportation as a means of crossing that relies on human labor and has little capacity.

The village apparatus and the village head of Jaring Halus also stated the same thing regarding the inadequate infrastructure that: “The equipment we use for cleaning is minimal. We clean each other's yards.” (interview with Jaring Halus Village Apparatus, Mr. Hasan Basri, 18 December 2021)

“We from the village government also really hope for assistance from related parties to participate in helping to handle this waste. Until now, assistance related to waste handling from the Langkat district environmental office has not yet been available, but we are trying our best so that the Langkat district government in this case the Langkat district environmental service is willing to help facilitate such as trash cans, garbage carts and so on so as to make it easier in waste transportation and disposal of plastic, organic and non-organic waste, such as a 3-color trash can.” (interview with the Head of Jaring Halus Village, Mr. Haji Husman, 18 December 2021)

Regarding the ability to implement a solid waste management system in North Sumatra, an official from the North Sumatra Province Environmental Service said that: “In theory, ideally this system should be able to handle the waste problem in the province. But in the field there are obstacles.” (interview with the Waste Sub-Division Staff of the North Sumatra Province Environmental Service, Mrs. Jamalia Pattimura, 24 September 2021)

“So far not (in dealing with the waste problem)” (interview with Head of the North Sumatra Province Environmental Service Program Subdivision, Ms. Farakh Yolanda Kailola, 02 August 2021)

In this regard, the Langkat Regency Environmental Service official said that: “In terms of education, the community has been very well educated. But the ability to deal with waste

problems in Langkat Regency is still lacking.” (interview with the Head of First Aid Waste Management, Mr. Tengku Reza Aditya and Staff of the Waste Division of the Langkat Regency Environmental Service, Mr. Ricky Yudhasena, 30 November 2021)

The same idea was revealed by the Head of Jaring Halus Village that: “People's awareness to collect and sell to waste banks is very minimal, plus the waste bank is constrained by management and sales and the imbalance between income and expenditure. Processing waste so that it becomes useful value has not been carried out by the community. Garbage in Jaring Halus is an unresolved problem, especially plastic waste and household waste plus shipping waste that comes during high tide or tidal waters.” (interview with the Head of Jaring Halus Village, Mr. Haji Husman, 18 December 2021)



Source: Observation Results, 2022

Figure 10 Garbage around the yard as a form of low public awareness

The figure from the observation illustrates the condition of the community's home environment where garbage is scattered around the yard of the house which shows the low awareness of the community in handling and reducing waste.

Based on the results of interviews and observations that have been explained, it can be seen that the adaptation dimension related to the waste management system in the province of North Sumatra has not been effective as well as the area in Langkat Regency, especially Jaring Halus Village. This is due to inadequate infrastructure as a result of the lack of funding to support the implementation of the waste management system. The inadequate infrastructure has an impact on services. In addition, the ability of human resources to educate the public is still inadequate.

4.2. Discussion

The waste management system in achieving its goals is based on rules or the existence of a legal basis that regulates, there is a time period, and concrete targets so that its implementation can be well organized which is realized through monitoring activities by the government related to the implementation of the waste management system.

The period of time in achieving the objectives of the waste management system policy in Jaring Halus Village starts from the enactment of the rules for handling and reducing waste, namely 2018 to 2025. Based on the period from 2018 to 2021, it was found that the community was well educated about waste sorting and waste management where the

community is raised. Multiethnic areas are a little more difficult to educate. Overall, the knowledge of the people in Langkat Regency regarding waste management and sorting is quite good.

Regarding concrete targets in achieving the objectives of the waste management system policy in Jaring Halus Village, researchers found in the field that the waste management system has been regulated since Law 18 of 2008 was enacted in which each region is required to carry out waste management in the region. However, until now, this policy has not made any significant progress, due to several obstacles. Meanwhile, it is calculated with statistics only 21% in Langkat Regency is served because Langkat Regency is large so it is still on process. There was a planning for the implementation of waste management and the improvement is related to the budget. Statistical data from Bappenas shows that only 0.6% of the APBD is disbursed for waste management and it is so small that the waste in Jaring Halus Village is still not handled because the Langkat Regency Environmental Service does not have a policy for waste services there.

The legal basis as part of achieving goals in the effectiveness of the waste management system in Jaring Halus Village is based on Law Number 18 of 2008 concerning waste management and is regulated in Presidential Regulation Number 97 of 2017 concerning National Policies and Strategies for the Management of Household Waste and Similar Waste Household Waste or known as *Jaksranas*, which contains a system of 70% waste handling and 30% waste reduction. Then, it was issued by the provincial level regulated by North Sumatra Governor Regulation Number 3 of 2020 concerning household waste reduction, also abbreviated as *Pergubjasadar* (reduction and handling of waste from household sources). Afterwards, it was issued to the Langkat Regency level, namely Langkat Regent Regulation Number 39 of 2018 concerning Regional Policies and Strategies in handling and managing solid waste, abbreviated as *Jaksrada*, with the hope that in 2025 it will reach zero paperless.

The process of procedures and socialization as integration becomes very important so that the goals to be achieved can be known by members of the organization and who are the objects of the organization's activities. The waste management system has been effective in terms of procedural processes and socialization to the community so that the implementation of waste management activities can achieve 70% handling and 30% reduction through waste services and monitoring.

The integration dimension regarding the process of implementing the waste management system policy in Jaring Halus Village can be recognized, namely first by educating in collecting waste and providing some descriptions such as plastic waste that can be of economic value. Then, coordinate in a mutually beneficial form with the waste bank. When the waste bank is mandated to handle waste based on *Jaksrada*, it is always given assistance such as scales, garbage tricycles and never collects retribution for waste from the waste bank. Even after the waste is handled by the waste bank, there is a reduction of about 10-20% of the debit that goes to the TPA. Once in the TPA, the waste will be reduced through a sanitary landfill.

Socialization was also carried out in realizing the integration of waste management system policies in Jaring Halus Village. The North Sumatra Provincial Government through the North Sumatra Provincial Environmental Service has carried out routine socialization. Meanwhile, the Langkat Regency Environmental Service carried out socialization and

services to Jaring Halus Village were only temporary. The Jaring Halus Village Government continues to make efforts to disseminate information to the community regarding the *Jumat Bersih* and Mutual Cooperation Sunday program.

Finally, the waste management system implemented in the province of North Sumatra has not shown the effectiveness of an organization in terms of adequate capabilities and infrastructure. The adaptation dimension related to the waste management system in the province of North Sumatra has not been effective as well as the area in Langkat Regency, especially Jaring Halus Village. This is due to inadequate infrastructure as a result of the lack of funding to support the implementation of the waste management system. In addition, the ability of human resources to educate the public is still inadequate.

5. CONCLUSION

5.1. Conclusion

- 1) It can be seen that the waste management system adopted by Law no. 18 of 2008 on solid waste. Then, Presidential Decree No. 97 of 2017 which was adopted as the *Jaksrada* guideline, namely *Jaksranas* (National Policy and Strategy) adopted a system of 70% waste handling and 30% reduction in waste and was reduced to the level of the Regent's regulation, namely Regent Regulation No. 39 of 2018 concerning regional policies and strategies in handling and managing solid waste (*Jaksrada*). At the provincial level this is regulated by Pergubsu no. 3 of 2020 concerning the reduction of household waste as well or pergubjasadar (reduction and handling of waste from household sources) with the hope that in 2025 it will reach zero paperless.
- 2) The portrait of the waste management program in Jaring Halus Village, Secanggang District, Langkat Regency reveals that waste management with 70% waste handling and 30% waste reduction in the waste management system in the form of services and monitoring provided by the Langkat Regency government to Jaring Halus Village does not exist, is temporary in nature, and is not sustainable. Due to the government's lack of a waste management policy, Jaring Halus Village's waste is still not being collected. The government of Jaring Halus Village continues its trash management initiatives. There are initiatives for waste management, such as *Jumat Bersih* and mutual cooperation Sundays, but they are not implemented sustainably since the community recognizes waste management as an ongoing issue. The TPS were also full and were not transported to the TPA; consequently, they were scattered. Then, a crack appeared in the wall, but there was no response from the authorities. The community's efforts are limited because there is no waste disposal facility, and garbage that has settled with water and mud is difficult to pick up.
- 3) From the community's perspective on the waste management system in Jaring Halus Village, Secanggang District, Langkat Regency, it is evident that the garbage problem in Jaring Halus Village has never been resolved. Because the Jaring Halus community is surrounded by the ocean, there have been several volunteers and OPD visits, but no resolutions have been reached. Thus, the waste is not only generated by household waste, but also by natural phenomena such as the tides of the sea; when the tide enters the residents' settlements, the garbage is left behind when the tide recedes.

5.2. Suggestion

Based on the findings of this study, it is suggested that the Langkat Regency Environmental Service create a short-term work plan for Jaring Halus Village services either every six months or once a year so that the community continues to feel served through beneficial and useful activities programs prepared in collaboration with the village government related to waste management so that monitoring activities can still be carried out. Include the socialization performance report agenda for each region related to waste management as a vital agenda for performance accountability related to how seriously the regional related agencies support the implementation of the waste management system; and evaluate and monitor waste management activities through performance reports on waste handling and reduction from each region so that it can be used as a decision-maker in all areas.

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